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Depolarization and transmission block in the cat's superior cervical ganglion. By W. D. M. PATON and W. L. M. PERRY. *National Institute for Medical Research, Mill Hill, London, N.W.7*

In chloralosed cats single maximal shocks were applied to the cervical sympathetic and records were taken with non-polarizable electrodes from ganglion to cut postganglionic trunk using d.c. amplification. The action potentials and the potential difference between ganglion and cut postganglionic trunk were recorded. Drugs were injected intra-arterially.

Small doses of acetylcholine cause transient depolarization. Larger doses increase and prolong this depolarization, and this is then accompanied by partial or complete transmission block. Both depolarization and block may be slightly potentiated by eserine, which in large doses itself blocks, but without depolarizing the ganglion.

Nicotine and tetramethylammonium depolarize and block the ganglion like acetylcholine, but D-tubocurarine, pentamethonium and tetraethylammonium produce complete block without any depolarization.

Thus, blocking agents at the ganglion, as at the motor end-plate, may be classified according to whether or not they depolarize the junctional region.

